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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/681,878	10/09/2003	Vincent L. Chiang	50617.C1/C-3532.0	8100

22428 7590 09/19/2006

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3000 K STREET NW
WASHINGTON, DC 20007

EXAMINER

BAUM, STUART F

ART UNIT	PAPER NUMBER
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1638

DATE MAILED: 09/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/681,878

Applicant(s)

CHIANG ET AL.

Examiner

Stuart F. Baum

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1638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 27 and 29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 27 and 29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input checked="" type="checkbox"/> Other: <u>sequence search result</u> . |

DETAILED ACTION

1. The amendment filed 6/29/2006 has been entered.
2. Claims 27 and 29 are pending.
Claims 1-26, 28 and 30-45 have been canceled.
3. Claims 27 and 29, including SEQ ID NO:10 are examined in the present office action.
4. Rejections and objections not set forth below are withdrawn.
5. The text of those sections of Title 35, U.S. Code not included in this office action can be found in a prior office action.

Written Description

6. Claim 29 remains rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This rejection is maintained for the reasons of record set forth in the Official action mailed 1/30/2006. Applicant's arguments filed 6/29/2006 have been fully considered but they are not persuasive.

Applicants contend method for the isolation and purification of multiple 4Cl genes in loblolly pine are disclosed in the Examples (page 7 of Remarks, 1st full paragraph). Applicants contend one skilled in the art would recognize from reading the specification that Applicants have adequately described multiple loblolly 4CL promoter sequences (*Ibid*).

The Office contends that Applicants have not disclosed a representative number of promoter sequences from gymnosperm 4CL genes. In addition, Applicants have not disclosed

essential regions of a promoter from gymnosperm 4CL gene. Applicants have not disclosed a structure/function relationship for the 4CL promoters. Applicants have not disclosed if all gymnosperm 4CL promoters have the same expression profile. Therefore, disclosing methods for isolating any gymnosperm 4CL promoter, does not mean that all of the isolated promoters will have the same expression profile. Disclosing methods of isolating the claimed invention does not satisfy the written description requirement. At the time of filing, Applicants were not in possession of the broadly claimed genus of promoter sequences from gymnosperm 4CL genes.

Enablement

7. Claims 27 and 29 remain rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. This rejection is maintained for the reasons of record set forth in the Official action mailed 1/30/2006. Applicant's arguments filed 6/29/2006 have been fully considered but they are not persuasive.

Applicants contend they have provided a method of isolating SEQ ID NO:10 (page 7, 3rd full paragraph). In addition, Applicants contend they have provided methods for the isolation and purification of multiple 4CL genes from loblolly pine in the Examples (*Ibid*).

The Office contends Applicants have only disclosed SEQ ID NO:10 and a method for isolating said sequence. Applicants have not disclosed if in fact SEQ ID NO:10 comprises the necessary elements essential for promoter activity. Applicants have not disclosed the spatial and temporal expression pattern that is the result of the promoter activity of SEQ ID NO:10. In fact,

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Applicants have not disclosed if the isolated promoter has any promoter activity at all.

Therefore, given the state-of-the-art, and unpredictability as stated in the previous office action,

Applicants are not enabled for the claimed invention.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claim 29 is rejected under 35 U.S.C. 102(b) as being anticipated by Voo et al (1995 Plant Physiology 108:85-97).

The claim is drawn to an isolated DNA, wherein the DNA includes the promoter region of a gymnosperm 4CL gene.

Because Applicants do not define the meaning of “the promoter region”, the Office interprets this to mean any sequence 5’ to the ATG codon.

Voo et al disclose a promoter sequence 5’ to the ATG from a 4CL gene isolated from loblolly pine, comprising 142 base pairs that exhibit 100% sequence identity to bases 515 to 656 of Applicants’ SEQ ID NO:10 (page 93, Figure 8; and search results attached). The Office contends Voo et al anticipate the claimed invention because Voo et al disclose a DNA sequence from a gymnosperm 4CL gene that is 5’ to the translation start codon, and because Applicants do not explicitly define “the promoter region” as discussed above, and because Applicants do not disclose an expression profile and corresponding structural characteristics for their claimed invention that would be used to evaluate the sequence of Voo et al, i.e., for all the necessary elements.

9. No claims are allowed.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

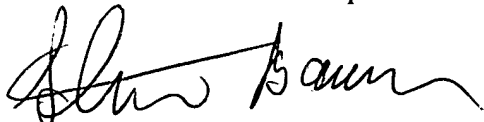
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stuart F. Baum whose telephone number is 571-272-0792. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached at 571-272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1600.

A handwritten signature in black ink, appearing to read "Stuart F. Baum". The signature is fluid and cursive, with the first name "Stuart" and last name "Baum" clearly distinguishable.

Stuart F. Baum Ph.D.

Primary Examiner

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September 11, 2006

Pinus taeda PT4CL2 4-coumarate-CoA ligase enzyme mRNA, complete
cds
Length=1972

Score = 287 bits (145), Expect = 2e-74
Identities = 145/145 (100%), Gaps = 0/145 (0%)
Strand=Plus/Plus

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Query 515 CTCATTCAATTCTTCCCACTGCAGGCTACATTTGTCAGACACGTTTTCCGCCATTTT
      ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct 1 CTCATTCAATTCTTCCCACTGCAGGCTACATTTGTCAGACACGTTTTCCGCCATTTT

Query 575 CCTGTTTCTGCGGAGAATTTGATCAGGTTCGGATTGGGATTGAATCAATTGAAAGGT
      ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Sbjct 61 CCTGTTTCTGCGGAGAATTTGATCAGGTTCGGATTGGGATTGAATCAATTGAAAGGT

Query 635 TATTTTCAGTATTTTCGATCGCCATG 659
      ||||||||||||||||||||
Sbjct 121 TATTTTCAGTATTTTCGATCGCCATG 145
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